M. Bate, H. Blau, J. Gurdon, M. Westerfield, speakers

Posttranscriptional control of maternal RNA: M. Wickens, discussion leader

D. Melton, R. Lehmann, S. Strickland, speakers

Down stream of transcription factors: S. Tilghman, discussion leader

B. Meyer, M. Levine, M. Scott, R. Krumlauf, speakers

Cell lineage and expression of homeodomain selector genes: P. Lawrence, discussion leader

A. Lumsden, W. Bender, J. Way, speakers

Evolution and redundant pathways in development: L. Wolpert, discussion leader

R. Raff, C. Nusslein-Volhard, R. Jaenisch, speakers

Drug Metabolism

Holderness School, Plymouth, NH

C. J. Parli, chair; T. A. Baillie, vice chair

11–16 July

The molecular biology and regulation of glucuronidation and sulfation: T. R. Tephly, discussion leader

P. Mackenzie, "Molecular and evolutionary aspects of UDP-glucuronosyltransferases."

M. D. Green, "Species differences in the structure and function of UDP-glucuronosyltransferases which catalyze the glucuronidation of common substrates."

C. Falany, "Human cytosolic phenol sulfotransferases."

Peroxisome proliferators, cytochromes P-450, and hepatoacarcinogenicity: S. H. Weinstein, discussion leader

R. T. Okita, "Peroxisime proliferators and cytochrome P-450–mediated reactions."

J. A. Popp, "Peroxisime proliferators and hepatocarcinogenicity."

Metabolism of agrochemicals: T. A. Baillie, discussion leader

E. Hodgson, "Monooxygenation of pesticides."

G. L. Lamoureux, "Current trends in plant herbicide metabolism research."

D. H. Hutson, "Conjugation reactions: The significance of the mundane, the unusual and the exotic."

Non-mammalian models in drug metabolism: M. O. James, discussion leader

J. J. Stegeman, "Species similarities and differences in cytochrome P-450 forms, function, and regulation: The validity of extrapolation between species."

M. O. James, "Understanding phase II metabolism in non-mammalian species can facilitate the interpretation of species differences in toxicological responses."

The use of in vitro metabolism studies in the understanding of new drugs: S. H. L. Chiu, discussion leader

R. Borchardt, "The use of cultured intestinal epithelial (Caco-2) cells to study drug transport and metabolism."

S. Spielberg, "Characterization of heterogeneity in reactive drug metabolite detoxification using readily obtained human cells."

Y. Sugiyama, "Prediction of in vivo drug metabolism from in vitro data based on physiological pharmacokinetic modeling."

Novel reaction mechanisms: J. M. Mathews, discussion leader

H. T. Nagasawa, "Oxidation of xenobiotics to nitroxyl (HN=O)–generating intermediates."

J. D. de Bethizy, "*N*-glucuronidation: A novel pathway for nicotine metabolism."

Metabolically defined and genetically engineered cell lines as tools to elucidate drug metabolism: D. W. Roberts, discussion leader

F. J. Gonzalez, "cDNA-directed expression of human P-450s: Use in drug development and safety assessment."

J. Doehmer, "Genetically engineered V-79 Chinese hamster cells stably expressing cytochrome P-450s: Applications in drug metabolism and toxicity studies."

J. E. Snawder, "Cytochrome P-450–dependent metabolism and cytotoxicity of acetaminophen in HepG2 cells and four human transgenic lymphoblastoid cell lines."

M. S. Tempesta, "Pharmacognosy in the 90's."

Evolving bioanalytical techniques in drug metabolism: L. J. Klunk, discussion leader

I. A. Blair, "Chemical reaction interface mass spectrometry: An alternative to radioisotopes for studies in drug metabolism."

M. A. Moseley, "Applications of CZE and CZE-MS in drug metabolism."

Dynamics of Gas-Surface Interactions

Proctor Academy, Andover, NH

H. Metiu, chair; R. Cavanagh, vice chair

1–6 August

J. Yates, discussion leader

A. Kleyn, "Time-resolved IR spectroscopy of zeolites."

S. Ceyer, "Dynamics of hydrogen absorption into nickel and the chemistry of bulk hydrogen."

TBA, discussion leader

C. Rettner, "Quantum site–specific dynamics of the dissociation of hydrogen on Cu(111)."

J. Tully, discussion leader

S. Sibener, "Molecular beam studies of surface dynamics."

E. Carter, "First principles derived dynamics of chemical processes on Si(100)."

TBA, discussion leader

M. Head-Gordon, "Non-adiabatic interactions between molecules and metal surfaces."

M. Lagally, discussion leader

G. McClleland, "Observing a single adsorbed atom with picosecond and subnanometer resolution."

P. Avouris, "STM induced modifications and electrical properties of surfaces on an atomic scale."

G. Comsa, discussion leader

T. Michely, "Surface morphology during homepitaxial growth."

TBA, discussion leader

R. Hochstrasser, "Ultrafast vibrational processes in condensed phases on surfaces: Contrasts and similarities."

J. Stephenson, "Ultrafast laser studies of energy flow: Adsorbate vibrations, lattice phonons, and hot electrons."

E. Hasselbrink, "Photochemistry on metal surfaces."

TBA, discussion leader

J. Trautman, "Near-field optics of surfaces."

TBA, discussion leader

A. Vlieg, "X-ray diffraction studies of surface dynamics."

P. Estrup, "Effect of surface structure change on kinetics: Hydrogen on metal."

R. Haight, "Semiconductor surface electron dynamics studies subpicosecond photoemission."

Dynamics of Simple Systems

Proctor Academy, Andover, NH

J. L. Friar, chair; R. S. Berry, vice chair

15–20 August

J. de Swart, "Nucleon-nucleon partial-wave analyses and nucleon-nucleon potentials."

S. Wallace, "Relativistic bound states and form factors: The quasipotential approach."

J. Carlson, "Monte Carlo approaches to structure and dynamics in light nuclei."

L. Knutson, "Few-nucleon experiments at low energies."

N. Rodning, "Multi-nucleon photoemission measurements using a large acceptance detector."

F. Gross, "Recent progress in the relativistic few-body problem."

D. Lehman, "Continuum Faddeev calculations and electromagnetic interactions."

A. Picklesimer, "A few deltas in a few few-nucleon systems."

G. Hale, "R-matrix methods for studying nuclear effects in muon-catalyzed fusion."

D. Campbell, "Complexity in simple systems."

A. Bulgac, "Random matrices and interactions between slow and fast degrees of freedom."

J. Cina, "Large-amplitude nuclear motion and electronic response."

J. Doering, "(e,3e) experiments to probe electron correlations in atoms."

M. Dunn, "Higher angular momentum states in D dimensions."

G. Ezra, "Semiclassical aspects of few-body Coulomb systems."

W. Johnson, "Diagonalizing the No-pair Hamiltonian for the He isoelectronic sequence."

M. Kellman, "Dynamical analysis of highly excited molecular vibrational spectra."

A. Pines, "Spin dynamics and geometry."

J. Shertzer, "Finite element analysis of two-electron systems."

K. Rademann, "Electronic interactions in small clusters of atoms: Nonmetal-to-metal transitions in mercury, cadmium, and zinc."

M. Gutzwiller, TBA

J-M. Rost, "A non-perturbative approach to multiple fragmentation of few-body systems."

Elastin

Kimball Union Academy, Meriden, NH

R. Senior, chair; C. Boyd, vice chair

8–13 August

Tropoelastin gene: Structure and evolution: C. Boyd, discussion leader

C. Boyd, "Tropoelastin gene: An overview."

J. Schwarzbauer, "A lesson in structure: Function relationships from analysis of the fibronectin gene."

F. Keeley, "Lamprin: An elastic protein in invertebrates."

Regulation of elastin production: W. Parks, discussion leader

W. Parks, "Developmental regulation of elastin production."

R. Pierce, "Posttranscriptional control of tropoelastin expression."

J. Uitto, "Elastin regulation in transgenic mice."

J. Foster, "IGF-1 responsive elements in the tropoelastin gene."

Microfibrils: L. Sakai, discussion leader

L. Sakai, "Structure and assembly of microfibrils."

G. Corson, "Sequence analysis of functional domains in fibrillin."

F. Ramirez, "Structure and expression of fibrillins."

M. Gibson, "Cloning of a new fibrillin-like protein (FLP)."

Molecular pathology of the elastin-associated microfibril: H. Dietz, discussion leader

L. Peltonen, "One class of marfan mutations: Truncated fibrillin polypeptide chains."

U. Franke, "Genotype-phenotype correlations of fibrillin mutations."

H. Furthmayr, "Biosynthesis and processing of defective fibrillin in marfan syndrome."

H. Dietz, "Pathobiology of Marfan syndrome: Early lessons from genotype assessment."

Elastic fiber assembly: R. Mecham, discussion leader

E. Cleary, "Proteoglycans in elastic fiber assembly."

G. Bressan, "Identification of a gp 115–enriched domain within elastic fibers."

L. Robert, M. P. Jacob, "The elastin receptor, its transmission pathway, and role in physiology and pathological cell functions."

Lysyl oxidase: H. Kagan, discussion leader

H. Kagan, "Substrate specificity and catalytic mechanism of lysyl oxidase."

R. Friedman, "Characterization and Ras suppressor function of the mouse lysyl oxidase gene."

P. Trackman, "Regulation of lysyl oxidase expression."

Elastin Turnover: R. Senior, discussion leader

H. Chapman, "Regulation of cathepsin S expression by human monocytes/macrophages."

E. Campbell, "The clinical spectrum of α 1-antitrypsin deficiency."

J. Brown, "Structural requirements for secretion of α 1-antitrypsin."

M. Glass, "Biochemical markers of proteolysis in controlled clinical trials."

J. Rosenbloom, discussion leader

Pathobiology of elastic tissue: Failed repression of elastase elastin and cell proliferation: M. Rabinovitch, discussion leader

M. Rabinovitch, "Failed repression on vascular elastase: Impact on cellular and molecular mechanisms."

R. Rosenberg, "Filed repression of vascular smooth muscle cell proliferation: Deregulation of proto-oncogenes and antisense therapy."

A. Hinek, "The elastin binding 'companion' protein as a regulator and deregulator of vascular extracellular matrix production and assembly."

B. Starcher, "Lessons from genetic strains of mice on the regulation of elas-

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